

APPENDIX D
DOCUMENTED ENVIRONMENTAL EFFECTS

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(Excerpts taken from the May 5, 1998 memo prepared by ABT Associates, for Charles Tamulonis, titled *Summary of Documented POTW Problems from Centralized Waste Treatment Facilities and Potential Monetization of Case Studies*. Memo is in the CBI record)

Problems with CWT facilities were identified through a series of phone conversations made during the months of June through September 1997 with EPA regional coordinators regarding 156 CWT facilities nationwide.

A total of 35 facilities were reported as having problems with their discharge. These problems may take the form of a permit exceedence, local limit exceedence, pass through problem for receiving POTW, negative impact on surface water quality, or negative impact on water odor.

The most commonly cited violations involve metals discharge. Permit violations for lead, silver, arsenic, zinc copper, nickel, mercury, and aluminum were reported by POTWs as originating from CWT facilities. Other commonly cited violations involved ammonia and oil and grease. Table 1 below presents the reported violations at 35 facilities in eight different EPA regions¹. Table 1 also lists the impacts of the violations on POTWs, the actions taken by the facility in response to the violation, and the current violation status of the facility.

As Table 1 demonstrates, violations at CWT facilities have not been insignificant. However, of the 35 facilities that have reported violations, only five continue to have discharge violations or continue to present problems for the receiving POTW. Three facilities have ceased discharging processed wastewater to the POTW, 16 have remedied the problem through more stringent quality assurance and quality control (QA/QC) procedures, and the current status of the remaining 11 facilities is not known.

¹ Regions 8 and 9 reported no violations.

Table D.1. Reported Permit Violations and Other Discharge Effects From CWT Facilities				
Site	Reported Violation	Impacts on Receiving Waterbody or POTW	Actions Taken	Current Status
Facility 1	Violation data were not available; either this facility does not have violations or is a minor permittee.			
Facility 2	High chlorine demand and high concentrations of nitrate, nitrite, sodium, lead, silver, and arsenic in influent to the POTW.	POTW had fecal coliform violations due to high chlorine demand. Also potential pass-through of lead and silver and arsenic.	Facility was fined \$5,000. POTW was placed on the RI State 304 list.	Facility improved its QA/QC and screens every batch of pollutants. Recent violations are minor and sporadic.
Facility 3	High cyanide and metal concentrations in influent flow to the POTW in the past. Facility has no non-compliance issues now.			Facility adopted more stringent QA/QC procedures.
Facility 4	Unacceptably high levels of copper, lead, nickel and zinc in receiving water.			
Facility 5	Permit violations (specific violation data were not available.)		Information on steps taken to remediate the problem is not available.	
Facility 6	Permit violations (specific violation data were not available.)		Information on steps taken to remediate the problem is not available.	
Facility 7	High concentration of phosphorus and cyanide in influent flow to the POTW.	Interference with POTW operations.	Facility was fined \$10,000. Facility was required to upgrade its waste characterization system.	Facility has not had any significant violations over the past 3 years.
Facility 8	High concentrations of cadmium, lead and mercury in influent flow to the POTW.	Potential impact on surface water quality (potential pass-through of cadmium, lead and mercury).	POTW was placed on the State 304(L) Short list.	Facility no longer treats waste at this site.

Table D.1. Reported Permit Violations and Other Discharge Effects From CWT Facilities				
Site	Reported Violation	Impacts on Receiving Waterbody or POTW	Actions Taken	Current Status
Facility 9	High concentrations of copper, lead and silver discharged to the receiving water.	Potential impact on surface water quality.	POTW was placed on the State 304(L) Short list.	Facility has not had any significant violations since 1991.
Facility 10	High concentrations of copper (0.06 mg/l) and aluminum (1.41 mg/l) discharged to receiving water.	Potential impact on surface water quality.		
Facility 11	High concentrations of organics in influent flow to the POTW.	Customers complained about the taste and odor of the local drinking water supply.	POTW was placed on the State 304(L) Short list.	Low level concentrations are still a concern.
Facility 12	High concentrations of TTO, cyanide, nickel, fats, oils and grease, lead, zinc, and mercury.	Potential impact on surface water quality.	Facility was fined \$60,000 for permit violations. POTW was placed on the State 304(L) Short list.	Facility has had an excellent compliance record for the past few years.
Facility 13	High concentrations of lead and zinc in influent flow to the POTW.	Potential impact on surface water quality.	POTW was placed on the State 304(L) Short list.	The site has not engaged in non-compliance practices with the exception of occasional reporting violations since Waste Management took over.
Facility 14	A couple of minor, one-time exceedances in the past.		POTW was placed on the State 304(L) Short list	The last violation was in 1994.
Facility 15	Monitoring the temperature and chlorine content of their discharge.			
Facility 16	Monitoring of gas extraction condensate.			
Facility 17	High concentrations of cadmium, copper, cyanide, lead, and zinc discharged to receiving water.	Potential impact on surface water quality.	POTW was placed on the State 304(L) Short list.	

Table D.1. Reported Permit Violations and Other Discharge Effects From CWT Facilities				
Site	Reported Violation	Impacts on Receiving Waterbody or POTW	Actions Taken	Current Status
Facility 18	High concentrations of oil and grease, phenols, and ammonia discharged to receiving water.	Potential impact on surface water quality.		
Facility 19	High concentrations of lead, cyanide, oil and grease discharged to receiving water. They also had temperature and pH problems.	Potential impact on surface water quality.		They are currently involved in a lawsuit due to which further information on violations and remediation processes was not available.
Facility 20	High concentrations of BOD (50.0 mg/L), TSS (238.0 mg/L), oil and grease (13.2 mg/L), zinc (320 µg/L) as well as CBOD, copper, pH and fecal coliform discharged to receiving water. The facility also had problems with boiler blowdown, softener regeneration backwash, and sanitary wastes.	Potential impact on surface water quality.		The facility tied all of its non-contacting cooling water processes together and now discharges to the POTW. They are only directly discharging groundwater and storm water.
Facility 21	High concentrations of zinc (2410 µg/L), fats, oils, and grease (348 mg/L), nickel (1,700 mg/L), and ammonia (8.92 mg/L) in influent flow to the POTW.	POTW had NPDES violations due to zinc pass-through. There was also an incident with ammonia pass-through for which the facility was fined.	For the ammonia there was a prohibited discharge surcharge of \$175 and one to two thousand dollars to reimburse the POTW.	Facility adopted more stringent QA/QC procedures.
Facility 22	High concentrations of organics (including benzene) and metals in influent flow to the POTW.	Discharged organic waste has produced health and environmental hazards and foul odors.	A civil lawsuit was settled and the POTW received \$650,000 and the Citizen's suit received \$300,000.	The facility is now bound by local limits developed by the POTW for organics. The facility has not improved.
Facility 23	High concentrations of ammonia, cyanide, and oil and grease in influent flow to the POTW.	POTW had NPDES violations due to discharge containing ammonia-nitrate which caused nitrification inhibition.	The POTW fined the facility \$3,450 for these violations.	Facility adopted more stringent QA/QC procedures.

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Site	Reported Violation	Impacts on Receiving Waterbody or POTW	Actions Taken	Current Status
Facility 24	High concentrations of ammonia in influent flow to the POTW.	POTW had NPDES violations for low pH causing inhibition problems.		Facility adopted more stringent QA/QC procedures and screens every batch of pollutants.
Facility 25	High concentrations of dissolved oxygen levels and a sewer overflow event.		POTW was placed on the State 304(L) Short list.	The facility has ceased operation.
Facility 26	Slug loading was caused at the POTW due to the discharge of malodorous solids into the sewer system, reducing air flow in the plant's oxidation dishes.	Interference with POTW operations.		Facility adopted more stringent QA/QC procedures.
Facility 27	High concentrations of copper, cyanide, zinc and lead in influent flow to the POTW.	Potential impact on surface water quality.	POTW has fined the facility for administrative and analytic work.	Facility adopted more stringent QA/QC procedures.
Facility 28	High concentrations of zinc, copper and lead in influent flow to the POTW.	Potential impact on surface water quality.		Facility adopted more stringent QA/QC procedures.
Facility 29	High concentrations of zinc and copper in influent flow to the POTW.			The facility could not comply with POTW limits and now they haul waste by truck to Indianapolis.
Facility 30	High concentrations of total recoverable phenolics, TSS, BOD, pH, single phenol compound, COD, free cyanide amenable to chlorination and bis(2-ethylhexyl)phthalate discharged to receiving water.	Potential impact on surface water quality.	The facility has been subject to administrative and penalty orders. A violator may have to pay \$2,000 per violation per day up to \$10,000 for administrative orders.	The facility has had no significant violations recently.
Facility 31	High concentrations of organics and benzene discharged to receiving water.	Potential impact on surface water quality.		The facility has not committed any violations for a number of years.

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Site	Reported Violation	Impacts on Receiving Waterbody or POTW	Actions Taken	Current Status
Facility 32	Facility had a reporting problem but it was not a situation of non-compliance.		The issue was resolved without any major problems to the POTW.	
Facility 33	High concentrations of chromium (7.42 mg/L), nickel (2.97 mg/L), zinc (5.17 mg/L), and nonpolar fats, oil and grease (407.3 mg/L) discharged to receiving water.	Potential impact on surface water quality. POTW placed on 304 (L) short list.	The facility was fined \$4,840 which covered all post-violation charges, including follow-up inspections, sampling and analytic tests.	The facility and POTW have been unable to reach a negotiated settlement.
Facility 34	High concentrations of copper, zinc, chromium, lead, nickel and fluoride.	Potential impact on surface water quality.	A telephone conversation and a notice of violation.	
Facility 35	High concentrations of sulfate, phenols and pH.	Potential impact on surface water quality.	Compliance Telephone Memorandums.	The facility has some equipment upgrades to improve the efficiency of the facility, not to address compliance issues.